

of the coil end section parallel to the axis of the rotor, and said coil support brace is wider than the coil end section, and covers the end section.

### **REMARKS**

This Amendment After Final should be entered because it make amendments to the independent claims that clearly places the claims in condition for allowance and distinguish the applied prior art. Further, it is believed that the amendments do not raise new issues requiring further search.

The rejection of claims 1, 3-8, 12, 14-17 and 19-24 as being anticipated by Laskaris (U.S. Patent No. 5,548,168) is traversed. The rejected claims are directed towards a coil support for a superconducting coil on a rotor, wherein the coil support is wider than the coil to brace the end section of the coil and covers the coil side.

Laskaris '168 discloses a "contoured housing 66" for a cooling tube (84). The contour housing extends along the outer periphery of the rotor coil winding . At the end section of the coil winding, the housing (66) supports the coil but is on the outside edge of the coil. The coil housing (66) provides no direct support to the upper or lower side surfaces of the end sections of the coil (20). The Action asserts that the spacer plates (72) support the coil, but actually the spacers merely prevent the coil from sliding from side to side within the thermal shield (22). There is no suggestion that the plates (72) brace the coil, they are not wider than the coil and do not cover the coil and do not cover the coil. Contrary to the Action, the spacer plates in Laskaris '168 do not take the place of the coil housing (66) or serve the same support function. In contrast to Laskaris, upper and lower

wide supports are provided in the claimed invention to brace the coil ends with respect to torsional forces and bending forces that may act on the coil ends.

The claims have been amended to make clear that the coil support is wide in order to brace the end section of the coil. In particular, claim 1 has been amended to state that the coil support is wider than the coil end section, "rotor". In contrast, the spacer plate (72) shown in Laskaris '168 is much thinner than the coil. In addition, the spacer plates only cover a small corner of the coils. The claims as amended also make clear that the support covers the side of the coil. The Laskaris spacer plates does not cover the coil

Further, Laskaris does not disclose or suggest the "pair of plates" recited in dependent claims 3 and 19. The spacer plate (72) shown in Laskaris are not plates which sandwich the end section of the coil.

The obviousness rejection of claims 9-11 and 25-27 are traversed for substantially the same reasons as stated above regarding Laskaris '168. Further, the Rios patent (U.S. Patent No. 4,277,705) does not suggest that the Laskaris coil housing (66) be modified to form the claimed invention. The coil support disclosed in Rios are end sections (20) of a stack of coils and plates that form the rotor core. The rotor core section (30) does not provide support to the end section of the coils. Rios does not suggest that the coil winding housing (66) in Laskaris '168 be modified to form the end coil support section shown in the present invention. Further, Rios does not disclose or suggest the side coil support as shown in the present application.

The anticipation and obviousness rejection should be withdrawn. All claims are believed to be in good condition for allowance. If any small matter remains outstanding,

WANG et al  
Serial No. **09/854,940**

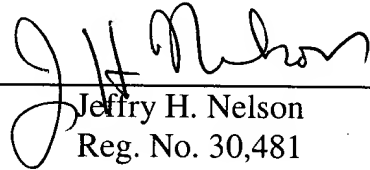
the Examiner is respectfully requested to telephone Applicant's attorney. Prompt reconsideration and allowance of this application is respectfully requested.

Attached hereto is a marked-up version of the changes made to the [lsp2]specification and claim(s) by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_

  
Jeffrey H. Nelson  
Reg. No. 30,481

JHN:glf  
1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS**

1. (Twice Amended) In a synchronous machine, a rotor comprising:

a rotor core;

a super-conducting coil winding extending around at least a portion of the rotor core, said coil winding having a coil end section adjacent an end of said rotor core, and end coil support attached to and bracing said end section and being thermally isolated from said rotor core, wherein the end coil support attaches along a side of said coil end section parallel to a rotor axis and said end coil support is wider than a width of the coil end section and covers the side of the coil end section.

12. (Twice Amended) A method for supporting a super-conducting coil winding on a rotor core of a synchronous machine comprising the steps of:

- e. bracing an end section of the coil winding with an end coil support attached to at least one side of the end section parallel to a rotor core axis, wherein the end coil support is wider than the end section of the coil winding and covers the side of the end section;
- f. assembling the coil winding, end coil support and rotor core;
- g. attaching a rotor end shaft to said rotor core;
- h. thermally isolating the end coil support from the rotor core and shaft.

17. (Twice Amended) A rotor for a synchronous machine comprising:

a rotor core having at least one rotor core end orthogonal to a longitudinal axis of the rotor;

at least one end shaft attached to said rotor core end;

a race-track super-conducting (SC) coil winding extending around said rotor core and having a coil end section adjacent said rotor end;

a coil support brace attached to said coil end section and thermally isolated from said rotor core and rotor end shaft, wherein the coil support brace is affixed to a surface of the coil end section parallel to the axis of the rotor, and said coil support brace is wider than the coil end section, and covers the end section.